

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1-21. (Canceled)

22. (Currently Amended) An air filter cartridge comprising:

- (a) a z-filter media pack comprising fluted media secured to facing media; the media pack having an inlet flow face, an outlet flow face, and an axial length between the inlet flow face and outlet flow face;
- (b) an impermeable shell having opposite ends and a sidewall extending therebetween; the shell sidewall circumscribing the media pack; the shell having a seal support;
 - (i) the media pack being secured within the shell;
 - (ii) the ~~housing~~ seal support defining a plurality of seal flow apertures therethrough;
- (c) grid work extending over the outlet flow face; and
- (d) a seal arrangement secured to the seal support;
 - (i) the seal arrangement molded to the seal support and extending through the seal flow apertures;
 - (ii) the grid work and the seal support are at opposite ends of the shell.

23. (Previously Presented) An air filter cartridge according to claim 22 wherein:

- (a) the shell comprises a molded plastic material; and

(b) the seal arrangement comprises foamed polyurethane.

24. (Previously presented) An air filter cartridge according to claim 22 wherein:

(a) the shell is secured to the media pack by the seal arrangement.

25. (Previously presented) An air filter cartridge according to claim 22 wherein:

(a) the seal arrangement is molded directly to the media pack.

26. (Previously presented) An air filter cartridge according to claim 22 wherein:

(a) the grid work is an integral part of the shell.

27. (Canceled)

28. (Previously presented) An air filter cartridge according to claim 22 wherein:

(a) the seal arrangement includes no portion extending over the inlet flow face; and
the seal arrangement includes no portion extending over the outlet flow face.

29. (Previously presented) An air filter cartridge according to claim 22 wherein:

(a) the seal arrangement includes an axial pinch seal.

30. (Previously presented) An air filter cartridge according to claim 22 wherein:

(a) the media pack comprises a coiled z-filter media pack and a core is within the
media pack.

31. (Previously presented) An air filter cartridge according to claim 30 wherein:

- (a) the core includes a receiver and a non-hollow central blade.

32. (Previously presented) An air filter cartridge according to claim 31 wherein:

- (a) the grid work includes a center cross-piece defining the receiver.

33. (Previously presented) An air filter cartridge according to claim 22 wherein:

- (a) the seal support extends radially outwardly;
- (b) the media pack is racetrack shaped; and
- (c) the shell is racetrack shaped.

34. (Previously presented) An air filter cartridge according to claim 22 wherein:

- (a) the seal support is annular with respect to the media pack.

35. (Previously presented) An air filter cartridge according to claim 34 wherein:

- (a) the plurality of seal flow apertures extend along the annular seal support.

36. (Previously presented) An air filter cartridge according to claim 22 wherein:

- (a) the shell includes a first end having:
 - (i) a sidewall portion; and
 - (ii) a transition portion canted relative to the sidewall portion.

37. (Previously presented) An air filter cartridge according to claim 36 wherein:

- (a) the shell first end includes the seal support;
 - (i) the transition portion is between the sidewall portion and the seal support;
- and
- (b) the seal arrangement includes seal material between the transition portion and the media pack.

38. (Previously presented) An air filter cartridge comprising:

- (a) a z-filter media pack comprising fluted media secured to facing media; the media pack having an inlet flow face, an outlet flow face, and an axial length between the inlet flow face and outlet flow face; the media pack defining a longitudinal axis; and
- (b) a shell and a seal arrangement; the shell and seal arrangement extending the axial length of the media pack; the shell having a sidewall and a portion that is canted relative to the longitudinal axis of the media pack; the shell sidewall circumscribing the media pack;
 - (i) the media pack being secured within the shell;
 - (ii) the seal arrangement being molded to the canted portion.

39. (Previously presented) An air filter cartridge according to claim 38 wherein:

- (a) the seal arrangement includes a radial seal.

40. (Previously presented) An air filter cartridge according to claim 38 further comprising:

- (a) grid work extending over the outlet flow face;
- (b) the grid work is an integral part of the shell; and
- (c) a core within the media pack.

41. (Previously presented) An air filter cartridge according to claim 38 wherein:

- (a) the shell has a first end having a seal support;
 - (i) the canted portion is between the sidewall and the seal support; and
- (b) the seal arrangement includes seal material between the canted portion and the media pack.

42. (Previously presented) An air filter cartridge according to claim 38 wherein:

- (a) the shell has a seal support;
 - (i) the seal support includes a plurality of seal flow apertures therethrough;
and
 - (ii) the seal arrangement extends through the seal flow apertures.

43. (Previously Presented) An air filter cartridge according to claim 38 wherein:

- (a) the seal arrangement is molded directly to the media pack; and
- (b) the seal arrangement comprises foamed polyurethane.

44. (New) An air filter cartridge comprising:

- (a) a z-filter media pack comprising fluted media secured to facing media; the media pack having an inlet flow face, an outlet flow face, and an axial length between the inlet flow face and outlet flow face;
 - (i) the media pack being racetrack shaped;
 - (b) an impermeable shell having opposite ends and a sidewall extending therebetween; the shell sidewall circumscribing the media pack; the shell having a seal support;
 - (i) the media pack being secured within the shell;
 - (ii) the seal support defining a plurality of seal flow apertures therethrough;
 - (iii) the seal support extending radially outwardly;
 - (iv) the shell being racetrack shaped;
 - (c) grid work extending over the outlet flow face; and
 - (d) a seal arrangement secured to the seal support;
 - (i) the seal arrangement molded to the seal support and extending through the seal flow apertures.
45. (New) An air filter cartridge according to claim 44 wherein:
- (a) the shell includes a first end having:
 - (i) a sidewall portion; and
 - (ii) a transition portion canted relative to the sidewall portion.
46. (New) An air filter cartridge according to claim 45 wherein:
- (a) the shell first end includes the seal support;

- (i) the transition portion is between the sidewall portion and the seal support;
and
 - (b) the seal arrangement includes seal material between the transition portion and the media pack.
- 47. (New) An air filter cartridge according to claim 44 wherein:
 - (a) the seal arrangement includes no portion extending over the inlet flow face; and
the seal arrangement includes no portion extending over the outlet flow face.
- 48. (New) An air filter cartridge according to claim 44 wherein:
 - (a) the seal arrangement includes an axial pinch seal.
- 49. (New) An air filter cartridge comprising:
 - (a) a z-filter media pack comprising fluted media secured to facing media; the media pack having an inlet flow face, an outlet flow face, and an axial length between the inlet flow face and outlet flow face;
 - (b) an impermeable shell having opposite ends and a sidewall extending therebetween; the shell sidewall circumscribing the media pack; the shell having a seal support;
 - (i) the media pack being secured within the shell;
 - (ii) the seal support defining a plurality of seal flow apertures therethrough;
 - (c) grid work extending over the outlet flow face; and
 - (d) a seal arrangement secured to the seal support;

- (i) the seal arrangement molded to the seal support and extending through the seal flow apertures;
- (ii) the shell secured to the media pack by the seal arrangement.

50. (New) An air filter cartridge comprising:

- (a) a z-filter media pack comprising fluted media secured to facing media; the media pack having an inlet flow face, an outlet flow face, and an axial length between the inlet flow face and outlet flow face;
- (b) an impermeable shell having opposite ends and a sidewall extending therebetween; the shell sidewall circumscribing the media pack; the shell having a seal support;
 - (i) the media pack being secured within the shell;
 - (ii) the seal support defining a plurality of seal flow apertures therethrough;
- (c) grid work extending over the outlet flow face; and
- (d) a seal arrangement secured to the seal support;
 - (i) the seal arrangement molded to the seal support and extending through the seal flow apertures;
 - (ii) the seal arrangement molded directly to the media pack.

51. (New) An air filter cartridge comprising:

- (a) a z-filter media pack comprising fluted media secured to facing media; the media pack having an inlet flow face, an outlet flow face, and an axial length between the inlet flow face and outlet flow face;

- (b) an impermeable shell having opposite ends and a sidewall extending therebetween; the shell sidewall circumscribing the media pack; the shell having a seal support;
 - (i) the media pack being secured within the shell;
 - (ii) the seal support defining a plurality of seal flow apertures therethrough;
- (c) grid work extending over the outlet flow face; and
- (d) a seal arrangement secured to the seal support;
 - (i) the seal arrangement molded to the seal support and extending through the seal flow apertures;
 - (ii) the seal arrangement including no portion extending over the inlet flow face; and the seal arrangement including no portion extending over the outlet flow face.

52. (New) An air filter cartridge comprising:

- (a) a z-filter media pack comprising fluted media secured to facing media; the media pack having an inlet flow face, an outlet flow face, and an axial length between the inlet flow face and outlet flow face;
- (b) an impermeable shell having opposite ends and a sidewall extending therebetween; the shell sidewall circumscribing the media pack; the shell having a seal support;
 - (i) the media pack being secured within the shell;
 - (ii) the seal support defining a plurality of seal flow apertures therethrough;
- (c) grid work extending over the outlet flow face; and

- (d) a seal arrangement secured to the seal support;
 - (i) the seal arrangement molded to the seal support and extending through the seal flow apertures;
 - (ii) the seal arrangement including an axial pinch seal.

53. (New) An air filter cartridge comprising:

- (a) a z-filter media pack comprising fluted media secured to facing media; the media pack having an inlet flow face, an outlet flow face, and an axial length between the inlet flow face and outlet flow face;
 - (i) the media pack comprising a coiled z-filter media pack, and a core being within the media pack;
 - (ii) the core including a receiver and a non-hollow central blade;
- (b) an impermeable shell having opposite ends and a sidewall extending therebetween; the shell sidewall circumscribing the media pack; the shell having a seal support;
 - (i) the media pack being secured within the shell;
 - (ii) the seal support defining a plurality of seal flow apertures therethrough;
- (c) grid work extending over the outlet flow face; and
- (d) a seal arrangement secured to the seal support;
 - (i) the seal arrangement molded to the seal support and extending through the seal flow apertures.